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# INDUSTRIAL DRAWING

## IN PUBLIC SCHOOLS.

### THE COURSE OF INSTRUCTION

PREPARED BY

PROF. WALTER SMITH,  
STATE DIRECTOR OF ART EDUCATION FOR MASSACHUSETTS.

AND ADOPTED FOR

THE PUBLIC SCHOOLS OF BOSTON, CHICAGO, ST. LOUIS, SAN FRANCISCO,  
NEW YORK, BROOKLYN, WASHINGTON, MILWAUKEE, INDIAN-  
APOLIS, DETROIT, COLUMBUS, PITTSBURGH, ROCH-  
ESTER, SYRACUSE, LOWELL, LAWRENCE,  
WORCESTER, FALL RIVER, NEW  
BEDFORD, SPRINGFIELD,  
ETC., ETC.



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## What Industrial Drawing is.

*First*, Industrial Drawing has the forms of plane and solid geometry for its basis. When the two dimensions — length and breadth — are to be represented, the exercises should, therefore, begin with the drawing of *plane geometrical forms*, and by gradual steps advance to the application of these forms to practical design and to the different mechanical arts.

*Second*, When the three dimensions — length, breadth, and thickness — are to be represented, the exercises should begin with the drawing of *solid geometrical forms*, and by gradual steps advance to the application of these forms in working-drawings for mechanics; in practical perspective and light and shade.

*Third*, Industrial Drawing teaches the principles of practical design as applied both to the form and to the decoration of all manufactured objects; and so it acquaints the learner with conventionalization and with the most beautiful historical forms, whether of objects, or of their applied decoration.

*Fourth*, Industrial Drawing develops the taste, the imagination, and the inventive faculties, and in such a way as to benefit every one who has to do with form, either as producer, merchant, or consumer.

*Fifth*, This is the kind of drawing contemplated by the legislatures of Massachusetts and New York in their provisions for instruction in drawing in public schools.

*Sixth*, This is the kind of drawing recommended by the Superintendent of Public Instruction for New York.

*Seventh*, To teach industrial drawing is the surest way of developing fine art among the people.

*Eighth*, This is the kind of drawing which has been introduced into the public schools of the leading cities of the country.

*Ninth*, This is the kind of drawing recommended by the leading educators of the country.

*Tenth*, AND THIS IS THE KIND OF DRAWING WHICH IS TAUGHT ONLY IN THE COURSE OF INSTRUCTION PREPARED FOR PUBLIC SCHOOLS BY PROF. WALTER SMITH, STATE DIRECTOR OF ART EDUCATION FOR MASSACHUSETTS.

## INDUSTRIAL DRAWING FOR PUBLIC SCHOOLS.

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IN view of the fact that instruction in Industrial Drawing is now one of the required studies in the public schools of New York, the attention of school officers and teachers is invited to the course of instruction in INDUSTRIAL DRAWING prepared by Prof. Walter Smith, State Director of Art Education for Massachusetts, which has already been adopted in the principal cities and towns in New England, as well as in many of the leading cities of the country, including the cities of Rochester and Syracuse.

The considerations in favor of this course of instruction are : —

*First.* It is prepared by a thoroughly competent teacher, — one who has had a thorough and scientific professional training at the famous School of Kensington Art Training School, London ; and who also possesses a large and varied experience, on a broad scale, as a practical teacher of drawing in all its phases ; and who, therefore, combines in an eminent degree two absolutely essential requisites for preparing a suitable course for public instruction, — *thorough professional training, and practical experience in teaching the subject.*

*Second.* Prepared under such auspices, the course is both scientific and comprehensive. The study of drawing, as now required, can be regarded neither as an amusement nor as an accomplishment. *It must be Industrial in its character*; and from the beginning in the primary school, to the advanced work in high schools and art classes, the instruction should be arranged on a sound educational basis : the various

features of the study should be carefully graded according to the various grades of classes and ages of pupils in public schools ; and the instruction should tend to direct and practical ends.

The study of drawing is a very broad one in its applications to practical life ; and no course of instruction can be satisfactory that does not embrace its scientific and practical features as a basis.

*Third. This course is not an expensive one for the pupils.* Arranged as it is, to cover the period of the school-life of pupils, the whole expense for books and cards for the first eight years' study, or until pupils reach the High Schools, is only \$3.75.

*Fourth.* It is a course which can be taught in Primary and Grammar schools by the regular teachers, after slight preliminary instruction in the use of the cards and books. In nearly every city where it has been introduced, the instruction in these grades of schools is given by the regular teachers.

*Fifth. It is not a theoretical course: neither is it an experimental one.* The author has personally taught every feature of it ; and it therefore represents his practical experience : at the same time, its use in the best public schools of the country, and the results which have followed from its introduction, are of the most satisfactory nature.

In every one of the cities named as having introduced it, the results shown by the work of the pupils are completely satisfactory.

The publishers take pleasure in referring to Rochester and Syracuse in New York State for confirmation on this point, and particularly to the annexed Reports on Drawing in the schools of Milwaukee and Syracuse.

#### HOW TO BEGIN THE STUDY OF DRAWING IN PUBLIC SCHOOLS.

It is not expected that a complete and comprehensive course can be introduced at once into schools where the study has not previously been pursued. Only the elementary branches can be undertaken at first. And the Department of Public Instruction of New York has wisely suggested that the first introduction of the study should embrace the following elementary subjects ; viz., —

Freehand Outline Drawing from flat copies ; that is, printed copies.  
The Elementary Principles of Original Design.  
Freehand Model and Object Drawing.



And that, in the treatment of these subjects, sound instruction should be given in the following features : —

Geometrical Forms.  
Memory and Dictation Exercises.  
Conventionalization of Forms.  
The Principles of Elementary Design.  
The Principles of Freehand Perspective.

These suggestions of Mr. Gilmour, the able superintendent of the Department of Public Instruction for the State of New York, are in full accord with the best educational authorities, both in this country and in Europe, in regard to the proper subjects for elementary instruction in drawing. They form precisely the kind of elementary instruction that is being given in Europe at the present time, and also the kind of instruction Massachusetts began with four years ago ; and no course of instruction can be regarded as satisfactory, which does not deal with these subjects and features as the foundation of the instruction, and treat them in a thoroughly educational manner.

#### PROF. SMITH'S COURSE EMBRACES THESE FEATURES.

It is the merit of Prof. Smith's Course that it does regard these subjects as fundamental, as will be seen by the annexed diagram of the full course on page 6 ; and it will be noticed, in the diagram referred to, that, in the Primary and Intermediate Courses, these features are fully set forth as elementary steps, and as preliminary stages to more advanced work.

#### INSTRUCTION SHOULD BEGIN IN ALL GRADES.

When the study is introduced into public schools, instruction should be begun in all grades. It is no more difficult to begin wisely and thoroughly than to begin with half-and-half or experimental measures. Let one thing be clearly under-

stood by school-officers, — good results cannot be produced unless they regard the study as an important one in the course of school studies, and insist, at the beginning, that it shall have proper attention.

#### IMPORTANCE OF HAVING SOUND ELEMENTARY INSTRUCTION TO BEGIN WITH.

Teachers and school-officers should bear in mind, in selecting a course of instruction in drawing for public schools, that it is not simply a course for one or two years' study that they should provide. All elementary instruction is wasted, unless it leads to something practical ; and these elementary stages should be carefully considered with reference to the more advanced work which should follow. Drawing is a very comprehensive study ; and in its advanced stages of Design, Historical Ornament, Light and Shade, Building Construction, Architectural and Mechanical Drawing, and Painting, — branches of the study which should be undertaken in the High schools, — it is absolutely necessary, for good results there, that all the instruction in the previous stages should be sound ; and it should be particularly noted that INDUSTRIAL DRAWING does not mean picture-making, or the drawing of the human figure, or of birds, animals, or miscellaneous objects generally, in the elementary instruction.

The study of drawing, therefore, is something which should not be undertaken lightly ; and, before accepting any course of instruction for public schools, teachers and school-officers would do wisely to ascertain if it embraces the following points : —

- First.* Does it teach INDUSTRIAL DRAWING, and does the elementary instruction embrace the subjects and features required by the Superintendent of public instruction ?
- Second.* Are these subjects and features arranged in an educational manner, so that they can be taught by regular teachers after the necessary preliminary instruction has been given ?
- Third.* Is the instruction in these subjects and features so arranged as



to be applicable to the more advanced features of the study of drawing? If so, what is the character of the advanced work contemplated? And, further, does the Course, in all its details of elementary and advanced instruction, represent the practical experience of its author in teaching these subjects?

*Fourth.* What are the results of the Course as shown by its practical use in schools? On this point, specimens of actual and regular school-work should be required for examination.

The publishers of Prof. Smith's Course of Instruction will be happy to supply information on all these points. They are particular to give information in regard to all the details of the Course, especially in regard to its grading and to the character of the advanced work. And the Course has had such wide adoption, that the results of its use can be seen in a large number of cities.

#### PRELIMINARY INSTRUCTION TO TEACHERS.

In order to begin the study of drawing well in public schools, the regular teachers should be instructed in regard to the practical features of the study, and the best way to teach them. This can be done by engaging a special teacher of Drawing for a term, or by providing a course of lessons to teachers.

In regard to giving preliminary instruction to teachers, the publishers of this Course desire to say that they have the addresses of a number of teachers of drawing, who have had instruction in this system from Prof. Smith, in the Massachusetts Normal Art School, and who are therefore well qualified to give preliminary instruction to teachers. Boards of Education desiring such preliminary instruction are requested to apply to the publishers.

For further particulars in regard to the Course, terms of introduction, teachers, &c., apply to

L. PRANG & CO.,

ART AND EDUCATIONAL PUBLISHERS,

47 *Franklin Street, Boston.*

## DIAGRAM OF

# PROF. WALTER SMITH'S SYSTEM OF INDUSTRIAL AND ARTISTIC DRAWING.

THE following diagram shows the order and gradation of Prof. Walter Smith's System of Drawing. It will be observed that the course of instruction develops logically, according to the progress of pupils; and it will also be noted that the whole cost per pupil for books and cards for the first eight years of this course, or till pupils reach the high school, is only \$3.75.

Particular attention is invited to the definite objects aimed at in this system, and the practical character of the instruction in the Grammar and High School Courses.

### PRIMARY COURSE.

Comprising "Teachers' Manual," \$1.00, and two series of Cards at 15 cents each. This course is for the first three years in Primary Schools. Drawings to be made on slates. Cost per pupil, for the course, 30 cents.

It teaches the simplest elements. Beginning with lines and geometrical forms, it teaches the elements of symmetrical arrangement of forms and methods of working, conventional and natural forms, drawing from dictation, memory drawing, and elementary design. In short, this course lays the foundation.

### INTERMEDIATE COURSE.

Comprising "Teachers' Manual," \$1.25, and three drawing-books at 15 cents each. This course is for the fourth year's study. Pupils begin to draw on paper. Cost per pupil, for the course, 45 cents.

It reviews the Primary Course, and enlarges the instruction of each feature, and adds instruction in the elements of conventionalization, historical ornament, and drawing from objects by freehand.

## GRAMMAR COURSE.

Comprising "Teachers' Manual," \$3.00, and twelve drawing-books at 25 cents each. This course is for the fifth, sixth, seventh, and eighth years' study; and the drawing is both freehand and instrumental. Cost per pupil, for the four years' course, \$3.00.

### FREEHAND DIVISION.

The Freehand Drawing is applied to Historical Ornament, Model and Object Drawing, and Botanical Analysis; and instruction is given in the leading Historical Styles of Decoration, and Original Design.

### INSTRUMENTAL DIVISION.

In Instrumental Drawing, problems are given in Plane Geometry as the basis of all Mechanical Drawing, and also in Parallel and Angular Perspective.

## HIGH SCHOOL COURSE.

(IN PREPARATION.)

This course is in a measure elective; that is, pupils should be allowed a choice of subjects. The previous instruction prepares pupils for each branch of this course. The text-books will be of the same size and price as those belonging to the Grammar Course.

THE COURSE WILL COMPRISE:—

### FREEHAND DIVISION.

Model and Object Drawing in outline, and in light and shade, from text-books and mounted copies.

Figure Drawing, from mounted copies and from cast.

Historical Ornament, in light and shade, from the cast.

The same, in color, from colored examples.

Historical Styles of Decoration contrasted.

Botanical Analyses, from plants, in color.

Applied Design.

Landscape Drawing, from examples.

### INSTRUMENTAL DIVISION.

Advanced Perspective Drawing, from text-books and objects.

Mechanical Drawing, from text-books and objects.

Machine Drawing, from text-books and examples.

Architectural Drawing and Building Construction, from text-books and examples.

## CITIES WHERE PROF. SMITH'S COURSE OF INDUSTRIAL DRAWING HAS BEEN INTRODUCED.

The following leading cities of the country have made the study of Industrial Drawing a regular feature of study in their public schools, and have adopted Prof. Walter Smith's course of instruction for exclusive use:—

Boston.	Fitchburg.	Alleghany, Penn.
Providence, R.I.	Springfield.	Columbus, O.
Lowell.	Concord, N.H.	Toledo.
Lawrence.	Augusta, Me.	Chicago.
Newton.	Lewiston, Me.	Detroit, Mich.
Taunton.	Natick.	Milwaukee, Wis.
Somerville.	Gloucester.	Minneapolis, Minn.
Worcester.	Pittsfield.	Indianapolis, Ind.
Cambridge.	Haverhill.	St. Louis, Mo.
Waltham.	Hartford, Conn.	San Francisco, Cal.
Dedham.	Syracuse.	Washington, D.C.
Fall River.	Rochester.	
New Bedford.	Pittsburg, Penn.	

The course has also been placed on the list of text-books adopted for use in the public schools in New York City and Brooklyn.

## PARTIES WHO COMMEND PROF. SMITH'S COURSE OF INSTRUCTION.

This course of instruction is warmly commended by the following well-known educators, each of whom is acquainted with the practical working of the course in public schools:—

GEN. JOHN EATON, *Washington, U.S. Commissioner of Education.*  
 HON. ANDREW D. WHITE, *President of Cornell University.*  
 JOHN D. PHILBRICK, LL.D., *Late Supt. of Public Schools, Boston.*  
 WILLIAM T. HARRIS, *Supt. of Public Schools, St. Louis, Mo.*  
 J. L. PICKARD, *Supt. of Public Schools, Chicago, Ill.*  
 M. B. ANDERSON, LL.D., *President of Rochester University.*  
 WARREN JOHNSON, *Supt. of Public Instruction, Maine.*  
 JAMES MCALLISTER, *Supt. of Public Schools, Milwaukee, Wis.*  
 H. M. WILLARD, *Supt. of Public Schools, Newton, Mass.*  
 R. W. STEVENSON, *Supt. of Public Schools, Columbus, O.*  
 G. J. LUCKY, *Supt. of Public Schools, Pittsburgh, Pa.*  
 EDWARD SMITH, *Supt. of Public Schools, Syracuse, N.Y.*  
 J. O. WILSON, *Supt. of Public Schools, Washington, D.C.*  
 H. F. HARRINGTON, *Supt. of Public Schools, New Bedford, Mass.*  
 DUANE DOTY, *Late Supt. of Public Schools, Detroit, Mich.*

## INDUSTRIAL DRAWING IN THE STATE OF NEW YORK.

New York is the second State in the Union which has recognized the importance of Industrial Drawing in Public Education and the last Legislature passed an Act which must lead to the adoption of the study in all the public schools of the State.

The following is a copy of a Circular in regard to instruction in Industrial Drawing, issued by the Superintendent of Public Instruction for the State of New York.

### STATE OF NEW YORK.

DEPARTMENT OF PUBLIC INSTRUCTION,  
ALBANY, N.Y., Aug. 2, 1875.

*To the*

*of the*

The following is a copy of an Act passed at the last session of the Legislature, to which I invite your careful attention :—

### CHAPTER 322.

AN ACT RELATING TO FREE INSTRUCTION IN DRAWING, PASSED MAY 14, 1875; THREE FIFTHS BEING PRESENT.

*The People of the State of New York, represented in Senate and Assembly, do enact as follows :—*

SECTION 1. — In each of the State Normal Schools, the course of study shall embrace instruction in Industrial or Freehand Drawing.

SECT. 2. — The Board of Education of each city in this State shall cause free instruction to be given in Industrial or Freehand Drawing in at least one department of the schools under their charge.

SECT. 3. — The Board of Education of each union school, free-school district incorporated by Special Act of the Legislature, shall cause free instruction to be given in Industrial or Freehand Drawing in the schools under their charge, unless excused therefrom by the superintendent of public instruction.



SECT. 4. — This Act shall take effect October first, eighteen hundred and seventy-five.

It will be noticed that the Act is mandatory in regard to Normal Schools and the schools in cities, in some of which drawing already forms a part of the regular course of instruction. The Act takes effect on the first of October next; and by that time the Board of Education of each city, and the Local Board of each Normal School in which drawing does not now constitute a part of the regular course of study, should be prepared to comply with its requirements. The department desires to have this law enforced faithfully, and with reasonable promptness, and, at a future day, will require, from those having the management of schools affected by it, reports showing what steps have been taken in that direction, and what progress has been made.

I leave it to the Local Board and Faculty of each Normal School to arrange all matters of detail necessary to give effect to the Act, so far as those schools are concerned.

In cities, and in free-school districts incorporated by Special Act of the Legislature, the Board of Education have the right to determine in which department of the schools under their charge instruction in drawing shall be given; and they may select either the Primary, the Intermediate, or the Grammar departments. I suggest, however, that the beginning be made in the Grammar Schools, and that the instruction be given to all classes in those schools.

It will be observed that the intention of the Act is especially to promote the study of *industrial* drawing, which embraces "freehand" drawing. The department suggests, that, during the first year, systematic instruction should be attempted in at least the following-named subjects of the study:—

Freehand Outline Drawing from flat copies, that is, printed copies.

The Elementary Principles of Original Design.

Freehand Model and Object Drawing.

Instruction in these subjects can be carefully graded for Primary, Intermediate, Grammar, or High Schools; and the exercises should embrace the following features:—

Geometrical Forms.

Memory and Dictation Exercises.

Conventionalization of Forms.

The Principles of Elementary Design.

The Principles of Freehand Perspective.

These suggestions are not, of course, intended to apply to those schools in which a system of instruction in Industrial Drawing has already been introduced.

In beginning the study, I recommend the employment of special teachers, for a time, to instruct the regular teachers, and supervise the work done in the schools ; but drawing, like other branches of study, must ultimately be taught by the regular teachers. I also advise the examination and promotion of pupils in drawing, the same as in other studies.

The importance of a practical knowledge of the principles of Freehand Drawing is not likely to be over-estimated. It has been recognized by the authorities in Europe, and by those of several of the States of our Union. It should, therefore, be esteemed a pleasure, as well as a duty, to comply with the requirements of the Act above printed ; and I shall look for your active and hearty co-operation in the effort to introduce the study of Industrial Drawing into our public schools.

Your obedient servant,

NEIL GILMOUR, *Superintendent.*

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## INDUSTRIAL DRAWING IN SYRACUSE.

In the city of Syracuse, Prof. Smith's Course of Instruction has been in use for nearly two years, and with so much satisfaction, that at the public exhibition of drawing, held in June, 1875, a committee was appointed to examine and report upon the results. The gentlemen composing this committee were all well qualified, from their practical knowledge of the subject to judge wisely of the work exhibited. It will be noticed that the chairman of the committee was Rev. Dr. Anderson of the Rochester University. The Supervisor of Drawing in Syracuse is Mrs. Mary D. Hicks, who confines her instruction to the regular teachers and to the classes in the High School. Omitting a few details, the Report was as follows :—

The committee have examined the drawings of the pupils of the public schools of Syracuse with great interest. They have been impressed by

the correctness, taste, and skill which the drawings indicate, and also with the rapidity of the improvement, shown by the marked progress in execution in the change of any one grade of schools to the next higher; and also in view of the little time that has been given to this branch of instruction.

Those members of the committee who also examined the work of these same schools a year ago see a marked and gratifying advance in the character of the drawings; and all are united in a recognition of the ability and enthusiasm of the lady who has the general charge of this department, and the fidelity with which the teachers have discharged their duty.

It is well known how naturally and spontaneously children take to drawing rude imitations of objects or pictures, when once slate and pencil are intrusted to their hands. Here there may be seen, in the progressive series of drawings exhibited, how, from these crude attempts at imitation of childhood, may be developed, with hardly more than a mere suggestion by the teacher, ability to execute mechanical and freehand drawings requiring the exercise of no small amount of judgment, artistic skill, and taste.

And this withal, not in the case of a few individuals specially endowed, but in the average pupils of our public schools. And it is to be borne in mind that these results have been secured by the labors of teachers who are only, perhaps, but little in advance of their pupils, and who, in that regard, are by no means as competent as will be the teachers of the next generation, who will have had their training in the art in the formative period of their lives. The testimony of the teachers is, as might be expected, that the children are easily interested in such work, so that it is rather a recreation than a task. It is even quite possible that the children are further advanced in their other studies by reason of the life and interest excited by the drawing-lessons. At all events, as to the exercise itself, it may be said that it interests the children. It will be remembered that one very good test of the disciplinary value of any subject of instruction is the degree of interest that can be excited in the pupils' mind in relation to it.

As has already been intimated, the work is so eminently progressive in its nature, that any one who views these drawings can see how naturally a child can be led along from the simple lines on the slates, from the Primary Schools up to the quite elaborate exercises of the Normal class in the High School. In scarcely any other branch can the steps of instruction be so nicely adjusted to the pupils' needs as in this. The grade of ascent, so to speak, can be positively arranged to meet every case. But, no matter

at what point of the series any pupil may be constrained to leave, what he or she may have already accomplished will tell, in a certain practical way, in every lot or calling in life to which they may be assigned.

Drawing has so long been regarded as a mere accomplishment, and as needing a special aptitude, that it will take some time for the public mind to be educated up to the conviction that any one can acquire it, if taken at proper age ; and that scarcely any elementary study has so practical a bearing upon the daily life of the average graduate of our public schools, as drawing, properly taught.

Leaving entirely aside those considerations which are commonly advanced in favor of the cultivation of art in general, — common to all arts, — the committee will confine themselves to a suggestion or two upon the strictly practical advantages of the study of drawing, as it can be compassed in an ordinary common-school course.

Perhaps it may be well to narrow the question still more, and allude only to its influence upon those who are to be engaged in mere mechanical employments. These very drawings on exhibition show training of eye and hand, of judgment in size and form and proportion, of accuracy of measurement, of inventive faculty, and these habitually exercised at a time of life when correct habits are most easily formed. Such habits and such acquirements are the only foundations for success in any line of mechanical industry. These qualities, once possessed by an individual, make him the master-workman, perhaps, able to interpret the plans and instructions of the architect or superintendent, apt in design, able to direct the details, or suggest the most direct means to accomplish any given mechanical ends, or to solve some of the intricacies of the problems in practical mechanics. At all events, it will make him the skilled workman, to earn the highest wages of his class by his full comprehension of the tasks assigned him, and the accuracy and thoroughness with which he performs them.

As is well known, under the old system, no small portion of the time of apprenticeship was spent in acquiring those elementary notions, and that elementary skill of hand, which might have been easily acquired before the boy left his school ; and this preliminary practical judgment and dexterity is no small part of every trade-knowledge. It is related of the English ship-carpenters, that when the change was made from wooden to iron vessels, in the absence of skilled iron-workers, they were temporarily employed, and it was then found, that, with a short stage of apprenticeship, they became expert in the new employment.

Your committee believe that the study of drawing in the public schools has just this direct practical effect, — to shorten the apprentice state of



mechanic life, and so prove an economy of materials and an economy of effective industry. It will increase the value of all mechanical labor by the habits of accuracy and dexterity with which it furnishes the boy emerging from school-life.

The tendency of our time is to a more thorough and enduring workmanship in architecture, to a greater perfection in machinery, to labor-saving inventions, and to what is sometimes called decorative art in its manifold forms. These all demand skilled labor; and it will be noticed that those nations where drawing has been taught in the elementary schools have hitherto taken the lead in such profitable industries.

But the influence of such training and such habits upon female character, and in household occupations, would hardly be less favorably, as your committee are convinced, though they will not swell this report by any attempt to illustrate this thought.

We close by urging the people of the city to visit this exhibition, and see what has already been done, and to consider the possible, or rather the probable, results of this instruction in increasing the effective capacity of the people in after-life.

We are sure, that, with such observation and reflection, a judicious system of drawing in the public schools will commend itself to the approval of every intelligent person.

M. B. ANDERSON,	} <i>Examining Committee.</i>
H. B. WILBUR,	
J. L. SILSBEE,	
W. A. DUNCAN,	

The uniform excellence of the work in the Syracuse schools is very noticeable, and speaks well not only for the course of instruction adopted, but for the intelligence with which it has been used by Mr. Hicks and the teachers. The work in the Primary schools is particularly good, and shows how easily and how readily very young children can be taught to draw when they receive proper instruction.

What has been done in Syracuse can be done in every city when the subject is taken up in the proper manner.



## INDUSTRIAL DRAWING IN MILWAUKEE.

Among prominent educators, one of the first to recognize the importance of Industrial Drawing was James McAllister, Esq., of Milwaukee, at present Superintendent of Schools of that city. He saw at once the practical wisdom of the step taken by Massachusetts in 1870, when that State began the movement in favor of Art Education, by ingrafting instruction in Industrial Drawing upon her system of public instruction; and he appreciated the good sense which led that State in beginning this new branch of instruction, to seek the services of a competent and experienced Art Master to take charge of the subject and lay out the proper course of instruction. Accordingly, when Prof. Smith's course of instruction appeared in 1873, Mr. McAllister immediately secured its introduction into the public schools of Milwaukee; and such has been the success produced by its use with the teachers and pupils in that city, and such has been the interest of the people of Milwaukee in the study, that, at the school examination for the present year, the Board of Education appointed a committee, comprising some of the most intelligent citizens, to examine and report upon the examination drawings of the teachers and pupils.

This Citizens' Committee made the following report, which is commended to all parties interested in the subject:—

## REPORT OF THE CITIZENS' COMMITTEE ON DRAWING IN THE PUBLIC SCHOOLS OF MILWAUKEE.

MILWAUKEE, July 24, 1875.

*To the Board of School Commissioners of the City of Milwaukee.*

GENTLEMEN, — The committee of citizens appointed by you to inspect the drawings prepared by the pupils of the public schools for their annual

examination of the present year, take pleasure in reporting that they have done so, and that they are satisfied, from such inspection, that this department of public instruction is under competent management, and is making very encouraging progress.

The total number of drawings prepared was about fourteen thousand, being some four thousand more than were shown last year on the same occasion. The drawings from the several schools were arranged by grades, and were tastefully tied together, and in some cases bound for easy reference, and for preservation. The average age of the pupils in the lowest grade exhibiting was nine years. There are two grades still lower; viz., the ninth and tenth in the regular classification. These are not allowed to draw upon paper, but pursue regular exercises upon slates and the blackboard. Many have learned to draw in this way before they could read and write, a fact which of itself is sufficient to dispel the formidable notions of the difficulty of the subject which are sometimes entertained. The average age of the highest grades of the Grammar Schools exhibiting was about fourteen and a half years, and of the High and Normal Schools sixteen years.

As all were obliged to begin at the same point upon the first introduction of drawing into the schools, two years ago, the work of the older pupils does not show the same superiority to that of the younger, which will be the case when the system has been long enough in operation to have the upper classes filled with scholars who have been through the regular course of training in the successive grades below.

#### THE DRAWINGS INSPECTED

by the committee comprised freehand outline drawings of leaves, flowers, ornamental patterns, vases, and similar objects in a regular series. They were drawn from copies, from dictation and memory respectively. There were also specimens of map-drawing, and, from the High School, of mechanical drawing. The last, we learn, has been prosecuted with such good effect, that three of the graduates of the High School have been found competent to pass the examinations for admission to the scientific departments at the Ann Harbor and Madison universities. In addition, all the grades above the fifth displayed examples of original designs for ornamental patterns.

A number of fine drawings, consisting of copies and original designs, were exhibited also by the teachers. These are entitled to especial credit, since the teachers themselves have been obliged to acquire, since the introduction of the system, the knowledge which they are now engaged in imparting to others.

The superintendent of drawing teaches only the pupils of the High and

Normal Schools, the rest of his time being devoted to instructing the teachers, and supervising their work.

The method of instruction through the regular teachers is found to be not only an economical measure, but the most effectual means of attaining the end in view. The intimate acquaintance of the teachers with their pupils, obtained by daily contact, enables them to overcome the difficulties in each case more readily than could be done by an outsider. At the same time, the subject, when approached in this way, seems less formidable than if a special professor were brought in to elucidate something which the learner finds that his own teacher does not understand.

The excellence of the work of both teachers and scholars establishes that drawing

#### CAN BE LEARNED BY ALL,

and that no special artistic gifts are required, as is frequently asserted, to attain considerable proficiency. Much of the drawing, it is true, is awkward, showing the untrained eye and unsteady hand ; but it is honestly made, shows regular progress, and is marked by its very defects as the genuine performance of those whose work it professes to be.

A remarkable ratio of improvement is observable by comparison of these drawings with those prepared for the examination of last year. The work then done by the first and second grades is now executed with equal facility by the fifth and sixth, and will be mastered the coming year by still lower grades ; while the upper will go on to more advanced subjects.

This exhibition has furnished to many, if not to all, of the members of the committee, their first practical acquaintance with the system of drawing in use in our schools, and with the manner in which it is being carried out. They believe, that, if a similar acquaintance could be enjoyed by the public generally, the opposition to the study which has been manifested in some quarters would be replaced by warm favor and encouragement. They find that the aim proposed is not to teach drawing simply as rudimentary fine art, but

#### INDUSTRIAL DRAWING,

that, namely, which is required in the practice of many trades and branches of manufactures, and in architecture and engineering. So far from being a mere accomplishment, without use for the children of persons in moderate circumstances, and an expensive luxury for the taxpayers, it is in the highest degree a practical and useful acquirement. Among its minor benefits, the encouragement of habits of personal neatness in the pupils is not to be overlooked.

## THE SMITH SYSTEM IN USE.

The system in use, that of Walter Smith, an accomplished English instructor, who has been engaged as State Director of Art Education in Massachusetts for the past five years, is based upon that adopted twenty years ago by the English Government, after a thorough examination of the methods in use in other European countries. It is not, therefore, an experiment dependent upon the whims of successive teachers, but a fully perfected system tried by years of successful practice, and approved by the most competent persons everywhere.

## THE POPULAR IDEA OF DRAWING,

as derived from observation of its practice in most private schools, and under the direction of most self-styled professors of the art, believes it to consist in the laborious copying of commonplace pictures, which copies are hung up in parlors for admiration, while the perpetrator remains without the slightest ability to draw any natural object, with no acquaintance with the underlying principles of art, and without even manual dexterity capable of any useful application. Dissatisfaction with this sort of drawing is so well founded, that it would seem almost legitimate to make the encouragement of such waste of time and money an indictable offence. The system of Industrial Drawing, on the contrary, makes utility its principal aim. It has a definite object in view, and is instructive and valuable at all of its stages. Instead of creating an artificial refinement, and a distaste for labor, as has been asserted, it will make many kinds of manual labor — as in the occupations above mentioned — more attractive, because more easily mastered, better paid, and dignified with an element of beauty which has been greatly lacking in American work hitherto.

## THE DEPARTMENT OF ORIGINAL DESIGNS

was found much the most interesting part of the exhibition. It may seem surprising that persons who have been under instruction but a short time in each week for not more than two years can be already engaged in such difficult work as the preparation of original designs. The explanation is found in the fact, that it is one of the admirable features of the system in use, that it commences from the first to clear away the mystery in which design is involved. It analyzes ornamental forms, first of simple, then of complicated construction, into their original elements. It re-combines them, showing the process step by step, and then shows how the same elements may be differently combined in many other ways. The pattern



of a carpet, or a wall-paper, or tile-flooring, is thus no longer a difficult puzzle, but is seen as an orderly arrangement of simple forms which in themselves are easily comprehended.

An illustration will explain the manner in which these original designs are made, more clearly than could be done by description. We select three examples, at random, from among those prepared by the teachers. A plant, in this instance the convolvulus, is divided up into its elements, and certain geometrical figures are given, which these elements are to be used to fill with ornamental combinations.



The parts given are : 1. The leaf, front view ; 2. The leaf, side view ; 3. The flower, side view ; 4. The flower, front view ; 5. The bud ; 6. The tendril. The plant is conventionalized for decorative purposes ; that is to say, it is drawn as if flat, and without perspective effects.



A teacher in the Plankinton School used but three of the given elements ; viz., the front view of the leaf, the side view of the flower and the bud. Arranged in an eight-pointed star inscribed in a circle, the above result was produced.



A teacher in the Washington School selected an oblong pointed figure, and used all of the given elements in the following more elaborate design.



A third teacher, also in the Washington School, combined the given elements in still another fashion to suit the outline of a square, with small circles described upon the corners, as below.

The number of possible forms and combinations is almost limitless. "There is material enough in a single flower," says Ruskin, "for the ornament of a score of cathedrals."



It is not claimed that these examples meet all of the requirements of good design. Indeed, about their only merit is that of filling symmetrically the allotted spaces. As designs, they violate several of the canons which authorities on the subject have laid down, especially that which requires that ornament of this kind should grow from a definite stem,

and from definite points of departure. It will be noticed, that, in these, there is an absence of logic. Flowers grow out of the tops of leaves, and leaves and buds and other flowers out of the tops of flowers, in the most unreasonable and unnatural manner. They should proceed in the order of their importance, from common stems or roots; the observance of which principle would give a unity to the whole.

Such as they are, however, these designs show that the principles of symmetry and ornamental arrangement have been mastered. The rest, under the kind of instruction which it should be the business of the Superintendent of Drawing to impart, will follow in due time.

#### THE INTRODUCTION OF INDUSTRIAL DRAWING

into England was the result of an effort to improve the character of English manufactures as compared with those of surrounding nations. The manufacturers of New England were actuated by a similar motive. If the movement were confined to our own section alone, it would be too sanguine to expect from it any extraordinary results. But, beginning in Massachusetts, it is spreading throughout the country; and Milwaukee is but keeping pace with other localities. The skill which is now being acquired must be felt in a few years very sensibly. It will be felt in our iron-works, boiler and machine shops, and factories of every kind. It will show in the fronts of our buildings, and in all the furniture and utensils with which they are provided.

There are scarcely any objects manufactured in the United States free from some trace of ornament; but almost all of them are admitted to be homely. It is present on stoves and crockery, on door-bells and door-mats, on walking-sticks, penholders, and thimbles. It is ugly, because beautiful combinations cannot be hit upon at random; and most of this is designed without knowledge. It is expensive, also, because there are few persons who can make even these abortive attempts at design. Every architect knows that contractors add something to their estimates for any design that is at all out of the common, although the actual amount of work upon it may be less than upon the stereotyped patterns. A slavery to commonplace routine is thus enforced. Increased ability to design, and to understand design, will make beautiful forms as common as ugly ones now are. No detail of the ordinary surroundings of life is too humble for the manifestation of industrial art. It is essentially the poor man's art, since it aims, by beautifying common objects, to bring within his reach a range of pleasures which have been hitherto reserved for the wealthy.

Although the movement cannot fail to be everywhere beneficial, it is

not unreasonable to expect, from a population constituted like that of this locality, somewhat unusual results. There is here

#### AN UNUSUAL MINGLING OF NATIONALITIES,

all of which have, under favorable circumstances, exhibited high artistic talent. The German in his own country is studiously devoted to art. In the small state of Wurtemberg alone, there were, in 1867, no less than sixty-four art-schools in full operation. The Bohemian, the Pole, the Norwegian, the Englishman, the Irishman, and the Frenchman has each his latent capability, according to the individual genius of his country. In such a union of diverse elements, ethnologists find the happiest results : and we may confidently look forward to seeing them realized in our own case.

#### THE OBJECTS SOUGHT TO BE ATTAINED

by industrial art cannot justly be thought of little account, even in comparison with what are admitted to be the important interests of life. If it can be made possible to derive actual pleasure, instead of a sentiment of indifferent toleration, from contemplation of the wall-paper and carpet, the chairs, sofas, and footstools of one's apartment, from the bedstead on which he sleeps, the table at which he dines, the form and ornament of his plate, his cup, his knife, fork, and spoon (silver or pewter as the case may be ; for there is little or no necessary connection between beauty of design and rich material), or, again, from office desks and counters, hook-rack, safe, ink-stands, and gas-fixtures, — would not the sum of this reduplication of impressions surpass almost any and every other interest ? The objection offered by certain persons, that they have lived well enough without such fantastic refinements, and do not see the need of them, is as illogical as it is ungracious. Such is the rate of transition and progress in American life, that one improvement is constantly treading upon the heels of another. That certain things have not been had in the past can never be an argument for maintaining that they will not be needed in the future, until it is settled that universal perfection has been arrived at ; and this, we think, the most self-satisfied among us are still very far from asserting.

It may be asked, how, if the results briefly indicated above be admitted to be desirable, the teaching of drawing in the public schools is to secure them. It will do so by the education of the artistic sense of the community. As in the study of literary composition, the scholar is taught to appreciate beautiful figures of speech, or a simple and pure style of expression as contrasted with a bombastic one, so that, in his future

range of reading, he is prepared to admire the one, and discountenance the other : so in the study of art he learns the virtues and vices that may be manifested in straight lines and curves, light and shade, and colors. And just as, although he himself may never be called upon to write or compose to any extent, he will appreciate in other writers the characteristics which he knows to be good, and thus aid in making them prevail : so although he may never have to design either houses, or furniture, or frescos, when he comes to need them, or when his critical opinion is desired, he will commend such as are good, and repudiate those which are without merit. It is necessary to furnish an audience as well as performers ; and the more critical and accomplished it is, the better the style of work which will be insured.

#### THE COMPLETE SYSTEM

which has been entered upon in our schools comprises a number of subjects which have not been taken up, because the pupils have not been sufficiently advanced hitherto to do so with advantage. Among these are Perspective and Model Drawing. The time for commencing these has arrived ; and a small outlay for the purchase of casts and other models for use in this department is now needed. Some facilities of this kind must be provided, unless instruction is to stop at the merest rudiments. The influence of a few good antique heads, ornaments, and parts of figures, kept constantly before the pupils, could not fail to be highly beneficial. It would be commendable, if the small amount of material of this kind needed could be contributed from private sources. The persons who are interested in art are not too numerous in any community ; and, as they see its importance and value more clearly than others, the duty of sustaining attempts to aid in its propagation devolves upon them in an especial manner. The difficulty experienced in maintaining an art gallery, even of the smallest dimensions, in Milwaukee, must be convincing evidence, that, to make such institutions flourish as they should, a more fertile soil is needed. When the good seed falls upon a rock, it is withered up as a matter of course. The general dissemination of some degree of taste and knowledge by means of instruction in drawing in the schools will fertilize the soil as could be done in no other way, and prepare it for an abundant efflorescence in the future.

The complete plan as adopted in Massachusetts contemplates the establishment of evening schools to supplement the day schools. These have been put in operation in many localities with the most successful results. The committee would strongly recommend their introduction here. Instruction in the general branches could be combined with that in draw-



ing ; and mechanics and others be thus afforded the opportunities for improvement which they have been prevented by adverse circumstances from enjoying in the regular way.

#### THE TOTAL COST

of the department of drawing in our schools is confined to the payment of one salary of fifteen hundred dollars, and the purchase of a small quantity of drawing-paper for the examinations. Under the present system, it can never be a source of expense at all commensurate with its importance.

Perhaps the most comprehensive and effectual means of reaping the benefits which are hoped for from the prevalence of the system of Industrial Drawing would be the incorporation into the State laws of a statute similar to that adopted in Massachusetts. This adds drawing to the list of studies required to be taught in the public schools of the State, and prescribes, also, that every city of ten thousand inhabitants shall make provision for giving free instruction in Industrial or Mechanical Drawing to persons over fifteen years of age, either in day or evening schools, under the direction of the School Boards. The committee respectfully suggest the advisability of a movement in this direction as a means of broadening the basis of art culture, and also of giving to the State schools a unity in this important particular which they possess in most others.

In closing, the committee desire once more to heartily commend both the system in use and the progress which has been made in the city schools, and to bespeak for the department of drawing the interest which its value as an element in the development of our industries demands. What it most needs is not extravagant outlay, but rational appreciation and encouragement.

W. H. BISHOP, *Chairman.*

WILLIAM H. METCALF, }

F. A. LUITICH, }

JAMES DOUGLAS, }

*Committee.*

Similar and equally emphatic commendations in regard to the results of this course of instruction could be had from every city where it has been thoroughly introduced.



## What is not Industrial Drawing.

*First*, That kind of drawing which does not employ the forms of plane and solid geometry as its basis is not Industrial Drawing.

*Second*, That kind of drawing which ignores practical design, and which does not provide for instruction in conventionalization and historical ornament as leading features of practical design, is not Industrial Drawing.

*Third*, That kind of drawing which consists principally of exercises in the representation of old castles, cabins, carts, stumps, stone walls, and other like picturesque objects, is not Industrial Drawing.

*Fourth*, That kind of drawing which consists of exercises in the representation of animals, birds, fishes, flowers, shells, and the like, is not Industrial Drawing.

*Fifth*, That kind of drawing which consists of exercises involving shading and perspective applied indiscriminately in the elementary exercises is not Industrial Drawing.

*Sixth*, That kind of drawing which has not a clear and unmistakable bearing upon the different industrial arts ; which does not develop the taste as it relates to manufactures and all kinds of practical decoration, is not Industrial Drawing.

*Seventh*, That kind of drawing, the elementary principles of which cannot be taught to young children, is not Industrial Drawing.

*Eighth*, That kind of drawing which has, until quite recently, been taught generally in public and private schools, is not Industrial Drawing.

IN SHORT, THE ONLY SYSTEM OF INDUSTRIAL DRAWING PUBLISHED IN THIS COUNTRY, WHICH TREATS THE SUBJECT IN A PRACTICAL AND EDUCATIONAL MANNER, IS THE ONE PREPARED BY PROF. WALTER SMITH, STATE DIRECTOR OF ART EDUCATION FOR MASSACHUSETTS.

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